

Lung function decline accelerates in menopausal women

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Lung function decline after menopause may lead to fatigue. Credit: ATS

Menopausal women appear to experience an accelerated decline in lung function, according to new research published online ahead of print in the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

"Women are living longer and, therefore, many years beyond menopause," said Kai Triebner, MSc, lead author and a PhD candidate in epidemiology at the University of Bergen in Norway. "Our study highlights the importance of maintaining [respiratory health](#) long after the menopausal transition."

In "[Menopause is Associated with Accelerated Lung Function Decline](#)," European researchers report that both forced vital capacity (FVC), a measure of lung size, and forced expiratory volume in one second (FEV1), a measure of how much air can be forcefully exhaled in one second, declined in women going through the menopausal transition and after menopause beyond what would be expected through normal aging.

The authors wrote that the decline in FVC was comparable to smoking 20 cigarettes a day for 10 years, and the decline in FEV1 was comparable to smoking 20 cigarettes a day for 2 years. The more pronounced decline in FVC than FEV1 indicated menopause was more likely to cause restrictive, rather than obstructive, breathing problems. Obstructive breathing problems (including [COPD](#)) make it difficult to exhale air from the lungs while restrictive [breathing problems](#) (including [sarcoidosis](#)) make it difficult to fully expand the lungs upon inhaling.

"Whether obstructive or restrictive, the decline in [lung function](#) may cause an increase in shortness of breath, reduced work capacity and fatigue," Mr. Triebner said. "Symptoms depend upon how much lung capacity is reduced, and a few women may actually develop respiratory failure as a result of this decline."

In what they believe is the first longitudinal population-based study of lung function and menopause, the researchers analyzed data from 1,438 women enrolled in the European Respiratory Health Survey. Participants in the study ranged in age from 25 to 48 at enrollment, and none was menopausal when the study began. They were followed for 20 years and during that time most went through the menopausal transition or became postmenopausal.

The researchers adjusted their findings for age, weight, height, education and smoking history. As might be expected, current and past smokers showed a steeper decline in both age- and menopause-related lung function decline.

The authors said there were several possible explanations for their findings. Menopause brings hormonal changes that have been linked to systemic inflammation, which itself is associated with lung function decline. Hormonal changes are also implicated in osteoporosis, which shortens the

height of the chest vertebrae and may, in turn, limit the amount of air a person can inhale.

"Women, and their physicians, should be aware that respiratory health might decline considerably during and after the menopausal transition," Mr. Triebner said. "This could mean that they experience shortness of breath already with low physical activity."

Provided by American Thoracic Society

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